

Claims

1. A frictional pivot comprising:
gravity-responsive directional means for indicating a datum direction
of alignment with gravity;
frictional pivoting means for allowing the gravity-responsive means
coarsely to align with gravity;
vibration means for vibrating one or more elements of the pivoting
means; and
portable power means for powering the vibration means.
2. A frictional pivot according to claim 1, wherein the length and
frequency of occurrence of vibration produced by the vibrating means are
controlled by manual switches or electronic timing circuitry.
3. A frictional pivot according to claims 1 or 2, wherein the gravity
responsive directional means is a weighted pendulous arm orthogonally
attached to a pivotable shaft.
4. A frictional pivot according to claims 1 or 2, wherein the gravity
responsive directional means is an eccentrically weighted element
orthogonally attached to a pivotable shaft
5. A frictional pivot according to claims 3 or 4, wherein the frictional
pivoting means are two opposing plates of a flexible material which are held
apart at a predetermined distance by being rigidly attached to a case, and
conical ends of the shaft are located in conical depressions in the two
opposing plates.
6. A frictional pivot according to any one of the preceding claims,
wherein the vibration means is a low-voltage electric motor with an axially
attached eccentric weight.

BEST AVAILABLE COPY

7. A frictional pivot according to claim 5, wherein one or both of the two opposing plates are slugs of material with conical depressions and the slugs are axially movable relative to the pivotable shaft and held against the ends 5 of the shaft by leaf or helical springs.
8. A laser referencing tool having a frictional pivot according to any one of claims 1 to 7.
- 10 9. A laser referencing tool according to claim 7 when dependent on claim 4, wherein the laser referencing tool is integrally formed with the gravity-responsive directional means.
- 15 10. A laser referencing tool according to claims 8 or 9, further comprising an eccentrically weighted cylindrical housing frictionally attached about a common axis to another cylindrical housing, the second housing containing laser projecting means.
- 20 11. A laser referencing tool according to claim 10, wherein a reference point indicating gravitational alignment is a mark on the circumference of the weighted housing, with other marks spaced at regular angular intervals on the circumference of the second housing indicating the angular displacement of the laser projecting means away from the gravitational vertical.
- 25 12. A laser referencing tool according to claims 10 or 11, wherein the vibrating means is within one or both of the cylindrical housings.

BEST AVAILABLE COPY
